

Research Department  
Federal Reserve  
Bank of  
San Francisco

May 2, 1980

## How Good A Signal

Prices of industrial raw materials declined sharply in March, leading many analysts to predict the onset of recession, the deceleration of inflation, or both. However, one month's statistics may not provide enough support for a definite forecast. It should be remembered, moreover, that the raw-materials price series has not always provided a sure signal of the future direction of production and finished goods prices.

In past business cycles, industrial-material prices have reached their peaks, and turned downward, somewhat before the peaks in overall economic activity—but the lead has been anywhere between 3 and 17 months. Moreover, downturns in raw-material prices have not always been followed by downturns in production, income and sales. The variability and occasional unreliability of the price series thus has diminished its value as a recession forecaster.

Much the same can be said of the value of this series as an inflation forecaster. In past cycles, there have been long and variable lags between the peak rates of increase in industrial raw-material prices and nonfood finished goods prices. This suggests some difficulty in forecasting when a decline in raw-material prices will be translated into price moderation in the finished goods that producers sell. Moreover, in the past two cyclical expansions, consumer nonfood finished-goods prices peaked earlier than producer finished-goods prices, the opposite of what one would expect in light of the fact that retail prices are posted at a later stage of the distribution cycle.

Nonetheless, the behavior of raw-material prices does provide valuable information about the state of the economy because of their sensitivity to changing economic conditions. Slowdowns in the demand for finished manufactured products are translated first into reduced demand for raw-materials

inputs. And since most of these commodities are sold daily on organized exchanges, their prices respond quickly to changes in supply and demand of such materials.

The raw-material price trend bears watching today, especially if the sharp price break of March should be sustained. In March, spot-market prices of 13 raw industrial materials declined at a 26-percent annual rate, compared with a 28-percent rate of increase in the first two months of the year. A similar index which includes energy prices—the crude nonfood materials index—dropped 15 percent (annual rate) in March, following a 43-percent average rate of increase in the preceding two-month period. The difference between the two series could be explained by the continued rise in petroleum and coal prices—included in the latter but not the former series—which offset part of the sharp drop in prices of copper scrap, steel scrap, hides and rubber.

The March price decline, however, must be considered in the context of a sharp run-up which extended from early 1977 to early 1980. Indeed, early 1980 witnessed the sharpest price increase since the 1973-74 commodity boom. In this latest episode, a speculative buying flurry for gold and silver spilled over into the markets for nonferrous metals (especially copper scrap) while a sharp rise in OPEC oil prices caused a rapid rise in domestic producer prices for primary energy products. Consequently, the March raw-material price decline may best be described as the end of a speculative bubble, with some spillover from the recent liquidation of gold and silver stocks.

Caution in interpreting the latest price movement may be worthwhile, because crude-material prices have fluctuated widely since the beginning of the cyclical expansion of early 1975 (see chart). This volatility has reflected a series of flurries in inventory

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buying, followed by a series of inventory liquidations. In other words, several sub-cycles in commodity prices have occurred within the broad cyclical expansion of the past half-decade.

In the post-World War II period generally, spot-market prices for raw industrial commodities have peaked on the average 9 months before the peak in general business activity, although with a range of 3 to 17 months prior to the business-cycle peak. Moreover, the lead has narrowed significantly in recent business expansions, amounting to only 3 months prior to the November 1973 cyclical peak. To confuse matters further, the index containing energy prices failed to peak until 5 months after the 1973 recession began, because of the impact of sharply rising petroleum prices.

Prices of producer nonfood finished goods reached their peak rate of increase an average of 11 months after the peaks of the last two business cycle expansions—that is, well into the recessions. In view of this long lag, as well as the long lead of the spot-market index, we might have to wait until late in 1981 to see a deceleration in the producer finished-goods index in the current cycle. Predicting the movement of consumer-goods prices may be even more difficult, considering the fact that consumer prices led rather than followed producer finished-goods prices in each of the last two business cycles.

There are hazards too in predicting the magnitude as well as the timing of price movements from past price behavior. Between April 1974 and July 1975, the spot-market price index for industrial commodities dropped 27 percent. This was followed by a sharp deceleration in producers' non-food finished-goods prices, from a 25-percent annual increase in August 1974 to a 4-percent rate of increase in May 1976. But this does not mean that we should expect the same behavior in 1980-81, because many of the conditions present in that earlier period are not present today.

In 1973, the industrialized nations experienced a coincident boom in economic activity; for example, with the capacity-utilization rate in the U.S. industrial-materials industries reaching 93 percent—virtually full capacity. Because of an overheated world economy, shortages extended to nearly all basic industrial materials, and a shortage psychology led producers to expand their materials inventories at practically any price. Thus, in early 1974, prices for crude nonfood materials rose at an unprecedented 74-percent annual rate.

In early 1980, in contrast, inventory-sales ratios for basic materials remained relatively low, especially in contrast to the 1973-74 situation. High interest rates recently have helped discourage heavy inventory accumulation, with their burden of heavy carrying charges. Reflecting this situation as well as the lack of a worldwide commodity boom, the materials capacity-utilization index in this country stood at a high but not record level of 86 percent in early 1980. And the industrial raw-materials price index, although soaring upward at a 43-percent annual rate during the first two months of 1980 in the midst of the precious-metals splurge, did not approach the record high increase of early 1974.

Most of the recent weakness in material prices—both at the raw and intermediate stages of processing—could be attributed to the slump in residential construction and auto production. A strike at British Columbia mills helped stabilize domestic lumber prices during the first two months of 1980 after a sharp decline late last year in the wake of the U.S. homebuilding slowdown. But the producer price index for lumber resumed its downward movement in March—falling at an annual rate of 19 percent (seasonally adjusted)—and a further decline is in prospect for April. Between early March and late April prices for certain key homebuilding items fell precipitously. For example, the price of Douglas-fir 2-by-4's fell from \$210 per thousand board feet to \$160 per thousand board feet, while the price of Douglas-fir

studs dropped from \$198 per thousand board feet to \$145 per thousand board feet.

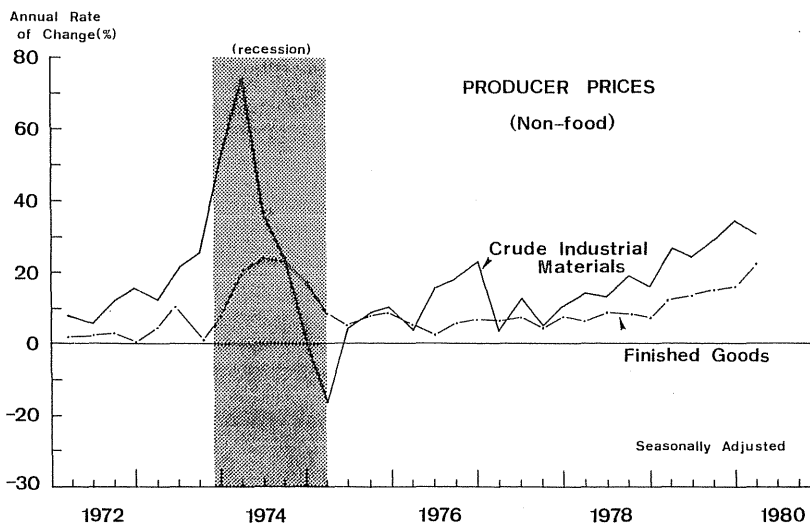
The U.S. producer price for refined copper reached a record \$1.42 per pound in mid-January—up nearly 40 percent in six weeks' time. But it has since fallen below its original level, to 94 cents per pound. This see-saw movement largely reflected the expansion and then the bursting of the speculative bubble in the markets for precious metals, along with declining U.S. consumption of copper. But copper prices could turn around later this year, in view of a prospective strike in the domestic industry and the relatively low level of producer inventories worldwide.

In other metals markets, lead and zinc prices have reflected the weakness in the auto industry. Aluminum prices, however, have continued to increase as a reflection of the strength in the aerospace industry. In early April, major aluminum producers raised primary-ingot prices from 66 to 72 cents per pound, thus bringing that quotation closer to the 90-cent price being charged by overseas producers.

In the energy area, there is little hope for anything but a modest deceleration in the rate of increase in prices as the year goes on. Further OPEC price increases could be restrained by the slowdown in U.S. consumption and by the brimful level of refinery inventories throughout the world. But petroleum prices in the United States generally are bound to continue to rise in view of the gradual decontrol of domestic crude-oil prices and the imposition of the gasoline import fee—and of course they would rise further if Iranian exports were to be cut off.

In summary, the historical record suggests that a decline in raw-materials prices, if sustained, will eventually lead to some deceleration in producer and consumer finished-goods prices, but the exact timing of the deceleration is uncertain. Moreover, barring a severe recession, recent developments suggest that the decline in basic industrial material prices may be smaller than during the 1974-75 recession. In that event also, we may see less of a deceleration in finished-goods prices than we experienced in that earlier cyclical decline.

**Yvonne Levy**



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**BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT**

(Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 4/16/80	Change from 4/9/80	Change from year ago	
			Dollar	Percent
Loans (gross, adjusted) and investments*	138,723	- 764	+ 13,668	+ 10.9
Loans (gross, adjusted) — total#	116,913	- 776	+ 14,969	+ 14.7
Commercial and industrial	33,864	- 26	+ 3,470	+ 11.4
Real estate	45,846	+ 114	+ 9,140	+ 24.9
Loans to individuals	24,432	+ 38	+ 2,943	+ 13.7
Securities loans	1,038	+ 31	- 477	- 31.5
U.S. Treasury securities*	6,534	+ 9	- 1,520	- 18.9
Other securities*	15,276	+ 3	+ 219	+ 1.5
Demand deposits — total#	46,362	+1,215	+ 2,341	+ 5.3
Demand deposits — adjusted	32,945	- 285	+ 766	+ 2.4
Savings deposits — total	26,599	- 460	- 3,322	- 11.1
Time deposits — total#	63,255	+ 304	+ 13,728	+ 27.7
Individuals, part. & corp.	54,530	+ 98	+ 14,330	+ 35.6
(Large negotiable CD's)	22,499	+ 37	+ 5,435	+ 31.9
Weekly Averages of Daily Figures	Week ended 4/16/80	Week ended 4/9/80	Comparable year-ago period	
<b>Member Bank Reserve Position</b>				
Excess Reserves (+)/Deficiency (-)	34	28	-	12
Borrowings	31	200	-	46
Net free reserves (+)/Net borrowed(-)	4	- 172	-	58

\* Excludes trading account securities.

# Includes items not shown separately.

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